pH Level and The Effects on Pseudomonas Flourescens

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The purpose of this lab was to determine if a change in the pH level of a substance made the fluorescent color of the pseudomonas flourescens change. The main method of determining whether or not the lab purpose was accomplished was by using a black light as well as a spectrophotometer and the idea of bioluminescence. A spectrophotometer determines the wavelength that is emitted from a light source, and in this case, the light source was the pseudomonas fluoresces. After putting in 33 mL of fresh lemon juice into a mixture of 260 mL of nutrient agar and letting the bacteria sit and grow in the solution, it appeared that the bacteria in the lemon juice solution had died because there was no sign that there was any growth, unlike the normal agar where there were obvious signs of growth. However, when put under the spectrophotometer, it appeared that there was still some light that was emitted from the Petri dish. This helps prove the case that there was still some life in the dish despite the appearance that there was no growth and this information could be used in many chemistry labs around the country. The light waves that were produced in the normal agar dish were in the yellow and green section, and when recorded with the spectrophotometer, the peaks were in the green wavelength section and the yellow wavelength section.

Keywords: Spectrophotometer, Bioluminescence, Pseudomonas Florescens, nutrient agar